



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,057	12/27/2001	Xiaomei Liu	CISCP276/5171	1825
22434	7590	05/26/2006	EXAMINER	
BEYER WEAVER & THOMAS LLP			PHUNKULH, BOB A	
P.O. BOX 70250			ART UNIT	PAPER NUMBER
OAKLAND, CA 94612-0250			2616	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/034,057	Applicant(s) LIU ET AL.	
	Examiner Bob A. Phunkulh	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is in response to applicant's 03/07/2006 amendment(s)/response(s) in the application of LIU et al. for "EFFICIENT AVAILABLE BANDWIDTH USAGE IN TRANSMISSION OF COMPRESSED VIDEO DATA" filed 12/27/2001. The amendments/response to the claims have been entered. No claims have been canceled. No claims have been added. Claims 1-22 are now pending.

Claim Objections

Claim 22 is objected to because of the following informalities: please correct the subject matter "A computer readable medium including instructions" to –A computer readable medium storing computer executable instructions—in order to avoid potential 35 U.S.C. 101 issue. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process. In contest, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2616

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Gatepin* (US 2001/0038668) in view of *Anantharamu* et al. (US 2002

Regarding claims 1, 3-4, 7, 9-12, 19, and 22, *Gatepin* discloses a network device for transmitting compressed video data onto a channel, the network device comprising:

a bit rate converter designed or configured to transcode compressed video data (the combination of TC[1] to TC[n], see figure 2);

a multiplexer designed or configured to (the combination of MUX and the controller, see figure 2)

a) schedule packets from the multiple bitstreams ;

b) determining if bandwidth is available on the channel prior to or after transcoding is performed when needed on the compressed video data, and if so, allocating additional packets from the multiple bitstreams to use the available bandwidth; and

a network interface designed or configured to output data packets from the bitstreams onto the channel (MS see figure 2).

Gatepin fails to explicitly disclose periodically determine if bandwidth is available on the channel.

Anantharamu, on the other hand, discloses dynamically and continuously determine the network bandwidth for transmission of video bit steam (see paragraph 0018).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made includes the teaching of *Anantharamu* in the system taught by *Gatepin* for providing a more efficient manner of streaming both pre-coded and live video on dynamic bandwidth networks.

Regarding claim 2, *Gatepin* discloses the multiplexer comprises a bandwidth arbitrator that is designed or configured to divide the available bandwidth substantially equally among the multiple bitstreams (the controller allocates rates, see figure 2 and para. 0025).

Regarding claim 5, *Gatepin* discloses the multiplexer is designed or configured to alter the scheduling of packets according to the bit rate of incoming bitstreams (the controller uses parametric information derived from the input compressed data signal and uses the information for rate allocation, see para. 0025).

Regarding claim 6, *Gatepin* the network device of claim 2 further comprising a rate controller, coupled to the bandwidth arbitrator and the bit rate converter, and designed or configured to output a control signal that determines the amount of rate reduction when transcoding the compressed video data (the controller which functions as both rate controller and bandwidth arbitrator coupled to the plurality of TC[1] to TC[n], see figure 2).

Regarding claim 8, *Gatepin* discloses the scheduler is included in a statistical multiplexer (see claim 5).

Regarding claim 20, *Gatepin* discloses outputting a control signal that determines the amount of rate reduction when transcoding the compressed video data (the controller allocates the bit rate by sending the a control signal to each of the TC[1] to TC[n], see figure 2).

Regarding claims 13-18, and 21, the combination of *Gatepin- Anantharamu* fails to disclose the available bandwidth is allocated according to a minimum bandwidth requirement for a downstream decoder.

Gatepin, however, discloses that in field of invention, the receiver decodes a given program from the received bouquet (see para. 0001).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was allocate the signal bit rate/bandwidth according to the receiver's decoding capabilities i.e. allocating the bandwidth according to minimum bandwidth requirement of the receiver, or according to the buffer level of the decoder, in order to allows the receiver ability and time to decodes the signal without over-flooding the receiver.

Art Unit: 2616

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any response to this action should be mailed to:

The following address mail to be delivered by the United States Postal Service (USPS) only:

Mail Stop _____
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306, (for formal communications intended for entry)

Or:

The following address mail to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, Hand Delivery, etc.) as follow:

U.S. Patent and Trademark Office
220 20th Street South
Customer Window, Mail Stop _____
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202.

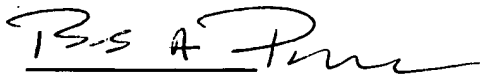
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M.

Art Unit: 2616

to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Wellington Chin**, can be reach on **(571) 272-3134**. The fax phone number for this group is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bob A. Phunkulh
Primary Examiner

TC 2600
Technology Division 2616
May 22, 2006

BOB PHUNKULH
PRIMARY EXAMINER